On What There Is

by Willard Van Orman Quine (1948)

A curious thing about the ontological problem is its simplicity. It can be put in three Anglo-Saxon monosyllables: 'What is there?' It can be answered, moreover, in a word— 'Everything'—and everyone will accept this answer as true. However, this is merely to say that there is what there is. There remains room for disagreement over cases; and so the issue has stayed alive down the centuries.

Suppose now that two philosophers, McX and I, differ over ontology. Suppose McX maintains there is something which I maintain there is not. McX can, quite consistently with his own point of view, describe our difference of opinion by saying that I refuse to recognize certain entities. I should protest, of course, that he is wrong in his formulation of our disagreement, for I maintain that there are no entities, of the kind which he alleges, for me to recognize; but my finding him wrong in his formulation of our disagreement is unimportant, for I am committed to considering him wrong in his ontology anyway.

When *I* try to formulate our difference of opinion, on the other hand, I seem to be in a predicament. I cannot admit that there are some things which McX countenances and I do not, for in admitting that there are such things I should be contradicting my own rejection of them.

It would appear, if this reasoning were sound, that in any ontological dispute the proponent of the negative side suffers the disadvantage of not being able to admit that his opponent disagrees with him.

This is the old Platonic riddle of nonbeing. Nonbeing must in some sense be, otherwise what is it that there is not? This tangled doctrine might be nicknamed *Plato's beard*; historically it has proved tough, frequently dulling the edge of Occam's razor.

It is some such line of thought that leads philosophers like McX to impute being where they might otherwise be quite content to recognize that there is nothing. Thus, take Pegasus. If Pegasus *were* not, McX argues, we should not be talking about anything when we use the word; therefore it would be nonsense to say even that Pegasus is not. Thinking to show thus that the denial of Pegasus cannot be coherently maintained, he concludes that Pegasus is.

McX cannot, indeed, quite persuade himself that any region of space-time, near or remote, contains a flying horse of flesh and blood. Pressed for further details on Pegasus, then, he says that Pegasus is an idea in men's minds. Here, however, a confusion begins to be apparent. We may for the sake of argument concede that there is an entity, and even a unique entity (though this is rather implausible), which is the mental Pegasus-idea; but this mental entity is not what people are talking about when they deny Pegasus.

McX never confuses the Parthenon with the Parthenon-idea. The Parthenon is physical; the Parthenon-idea is mental (according anyway to McX's version of ideas, and I have no better to offer). The Parthenon is visible; the Parthenon-idea is invisible. We cannot easily imagine two things more unlike, and less liable to confusion, than the Parthenon and the Parthenon-idea. But when we shift from the Parthenon to Pegasus, the confusion sets in—for no other reason than that McX would sooner be deceived by the crudest and most flagrant counterfeit than grant the nonbeing of Pegasus.

The notion that Pegasus must be, because it would otherwise be nonsense to say even that Pegasus is not, has been seen to lead McX into an elementary confusion. Subtler minds, taking the same precept as their starting point, come out with theories of Pegasus which are less patently misguided than McX's, and correspondingly more difficult to eradicate. One of these subtler minds is named, let us say, Wyman. Pegasus, Wyman maintains, has his being as an unactualized possible. When we say of Pegasus that there is no such thing, we are saying, more precisely, that Pegasus does not have the special attribute of actuality. Saying that Pegasus is not actual is on a par, logically, with saying that the Parthenon is not red; in either case we are saying something about an entity whose being is unquestioned.

Wyman, by the way, is one of those philosophers who have united in ruining the good old word 'exist'. Despite his espousal of unactualized possibles, he limits the word 'existence' to actuality—thus preserving an illusion of ontological agreement between himself and us who repudiate the rest of his bloated universe. We have all been prone to say, in our commonsense usage of 'exist', that Pegasus does not exist, meaning simply that there is no such entity at all. If Pegasus existed he would indeed be in space and time, but only because the word

'Pegasus' has spatio-temporal connotations, and not because 'exists' has spatio-temporal connotations. If spatio-temporal reference is lacking when we affirm the existence of the cube root of 27, this is simply because a cube root is not a spatio-temporal kind of thing, and not because we are being ambiguous in our use of 'exist'.[1] However, Wyman, in an ill-conceived effort to appear agreeable, genially grants us the nonexistence of Pegasus and then, contrary to what *we* meant by nonexistence of Pegasus, insists that Pegasus *is*. Existence is one thing, he says, and subsistence is another. The only way I know of coping with this obfuscation of issues is to give Wyman the word 'exist'. I'll try not to use it again; I still have 'is'. So much for lexicography; let's get back to Wyman's ontology.

Wyman's overpopulated universe is in many ways unlovely. It offends the aesthetic sense of us who have a taste for desert landscapes, but this is not the worst of it. Wyman's slum of possibles is a breeding ground for disorderly elements. Take, for instance, the possible fat man in that doorway; and, again, the possible bald man in that doorway. Are they the same possible man, or two possible men? How do we decide? How many possible men are there in that doorway? Are there more possible thin ones than fat ones? How many of them are alike? Or would their being alike make them one? Are no two possible things alike? Is this the same as saying that it is impossible for two things to be alike? Or, finally, is the concept of identity simply inapplicable to unactualized possibles? But what sense can be found in talking of entities which cannot meaningfully be said to be identical with themselves and distinct from one another? These elements are well-nigh incorrigible. By a Fregean therapy of individual concepts,[2] some effort might be made at rehabilitation; but I feel we'd do better simply to clear Wyman's slum and be done with it.

Possibility, along with the other modalities of necessity and impossibility and contingency, raises problems upon which I do not mean to imply that we should turn our backs. But we can at least limit modalities to whole statements. We may impose the adverb 'possibly' upon a statement as a whole, and we may well worry about the semantical analysis of such usage; but little real advance in such analysis is to be hoped for in expanding our universe to include so-called *possible entities*. I suspect that the main motive for this expansion is simply the old notion that Pegasus, for example, must be because otherwise it would be nonsense to say even that he is not.

Still, all the rank luxuriance of Wyman's universe of possibles would seem to come to naught when we make a slight change in the example and speak not of Pegasus but of the round square cupola on Berkeley College. If, unless Pegasus were, it would be nonsense to say that he is not, then by the same token, unless the round square cupola on Berkeley College were, it would be nonsense to say that it is not. But, unlike Pegasus, the round square cupola on Berkeley College cannot be admitted even as an unactualized *possible*. Can we drive Wyman now to admitting also a realm of unactualizable impossibles? If so, a good many embarrassing questions could be asked about them. We might hope even to trap Wyman in contradictions, by getting him to admit that certain of these entities are at once round and square. But the wily Wyman chooses the other horn of the dilemma and concedes that it is nonsense to say that the round square cupola on Berkeley College is not. He says that the phrase 'round square cupola' is meaningless.

Wyman was not the first to embrace this alternative. The doctrine of the meaninglessness of contradictions runs away back. The tradition survives, moreover, in writers who seem to share none of Wyman's motivations. Still, I wonder whether the first temptation to such a doctrine may not have been substantially the motivation which we have observed in Wyman. Certainly the doctrine has no intrinsic appeal; and it has led its devotees to such quixotic extremes as that of challenging the method of proof by *reductio ad absurdum*—a challenge in which I sense a *reductio ad absurdum* of the doctrine itself.

Moreover, the doctrine of meaninglessness of contradictions has the severe methodological drawback that it makes it impossible, in principle, ever to devise an effective test of what is meaningful and what is not. It would be forever impossible for us to devise systematic ways of deciding whether a string of signs made sense—even to us individually, let alone other people—or not. For it follows from a discovery in mathematical logic, due to Church, that there can be no generally applicable test of contradictoriness.

I have spoken disparagingly of Plato's beard, and hinted that it is tangled. I have dwelt at length on the inconveniences of putting up with it. It is time to think about taking steps.

Russell, in his theory of so-called singular descriptions, showed clearly how we might meaningfully use seeming names without supposing that there be the entities allegedly named. The names to which Russell's theory directly applies are complex descriptive names such as 'the author of *Waverley*', 'the present King of France', 'the round square cupola on Berkeley College'. Russell analyzes such phrases systematically as fragments of the whole sentences in which they occur. The sentence "The author of *Waverley* was a poet', for example, is explained as a whole as meaning 'Someone (better: something) wrote *Waverley* and was a poet, and nothing else wrote *Waverley*'. (The point of this added clause is to affirm the uniqueness which is implicit in the word 'the', in '*the* author of *Waverley*'.) The sentence 'The round square cupola on Berkeley College is pink' is explained as 'Something is round and square and is a cupola on Berkeley College and is pink, and nothing else is round and square and a cupola on Berkeley College'.[3]

The virtue of this analysis is that the seeming name, a descriptive phrase, is paraphrased *in context* as a so-called incomplete symbol. No unified expression is offered as an analysis of the descriptive phrase, but the statement as a whole which was the context of that phrase still gets its full quota of meaning—whether true or false.

The unanalyzed statement 'The author of *Waverley* was a poet' contains a part, 'the author of *Waverley*', which is wrongly supposed by McX and Wyman to demand objective reference in order to be meaningful at all. But in Russell's translation, 'Something wrote *Waverley* and was a poet and nothing else wrote *Waverley*', the burden of objective reference which had been put upon the descriptive phrase is now taken over by words of the kind that logicians call bound variables, variables of quantification, namely, words like 'something', 'nothing', 'everything'. These words, far from purporting to be names specifically of the author of *Waverley*, do not purport to be names at all; they refer to entities generally, with a kind of studied ambiguity peculiar to themselves.[4] These quantificational words or bound variables are, of course a basic part of language, and their meaningfulness, at least in context, is not to be challenged. But their meaningfulness in no way presupposes there being either the author of *Waverley* or the round square cupola on Berkeley College or any other specifically preassigned objects.

Where descriptions are concerned, there is no longer any difficulty in affirming or denying being. 'There *is* the author of *Waverley*' is explained by Russell as meaning 'Someone (or, more strictly, something) wrote *Waverley* and nothing else wrote *Waverley*'. 'The author of *Waverley* is not' is explained, correspondingly, as the alternation 'Either each thing failed to write *Waverley* or two or more things wrote *Waverley*'. This alternation is false, but meaningful; and it contains no expression purporting to name the author of *Waverley*. The statement 'The round square cupola on Berkeley College is not' is analyzed in similar fashion. So the old notion that statements of nonbeing defeat themselves goes by the board. When a statement of being or nonbeing is analyzed by Russell's theory of descriptions, it ceases to contain any expression which even purports to name the alleged entity whose being is in question, so that the meaningfulness of the statement no longer can be thought to presuppose that there be such an entity.

Now what of 'Pegasus'? This being a word rather than a descriptive phrase, Russell's argument does not immediately apply to it. However, it can easily be made to apply. We have only to rephrase 'Pegasus' as a description, in any way that seems adequately to single out our idea; say, 'the winged horse that was captured by Bellerophon'. Substituting such a phrase for 'Pegasus', we can then proceed to analyze the statement 'Pegasus is', or 'Pegasus is not', precisely on the analogy of Russell's analysis of 'The author of *Waverley* is' and 'The author of *Waverley* is not'.

In order thus to subsume a one-word name or alleged name such as 'Pegasus' under Russell's theory of description, we must, of course, be able first to translate the word into a description. But this is no real restriction. If the notion of Pegasus had been so obscure or so basic a one that no pat translation into a descriptive phrase had offered itself along familiar lines, we could still have availed ourselves of the following artificial and trivial-seeming device: we could have appealed to the *ex hypothesi* unanalyzable, irreducible attribute of *being Pegasus*, adopting, for its expression, the verb 'is-Pegasus', or 'pegasizes'. The noun 'Pegasus' itself could then be treated as derivative, and identified after all with a description: 'the thing that is-Pegasus', 'the thing that pegasizes'.[5]

If the importing of such a predicate as 'pegasizes' seems to commit us to recognizing that there is a corresponding attribute, pegasizing, in Plato's heaven or in the minds of men, well and good. Neither we nor Wyman nor McX have been contending, thus far, about the being or nonbeing of universals, but rather about that of Pegasus. If in terms of pegasizing we can interpret the noun 'Pegasus' as a description subject to Russell's

theory of descriptions, then we have disposed of the old notion that Pegasus cannot be said not to be without presupposing that in some sense Pegasus is.

Our argument is now quite general. McX and Wyman supposed that we could not meaningfully affirm a statement of the form 'So-and-so is not', with a simple or descriptive singular noun in place of 'so-and-so', unless so-and-so is. This supposition is now seen to be quite generally groundless, since the singular noun in question can always be expanded into a singular description, trivially or otherwise, and then analyzed out *à la* Russell.

We commit ourselves to an ontology containing numbers when we say there are prime numbers larger than a million; we commit ourselves to an ontology containing centaurs when we say there are centaurs; and we commit ourselves to an ontology containing Pegasus when we say Pegasus is. But we do not commit ourselves to an ontology containing Pegasus or the author of *Waverley* or the round square cupola on Berkeley College when we say that Pegasus or the author of *Waverley* or the cupola in question is *not*. We need no longer labor under the delusion that the meaningfulness of a statement containing a singular term presupposes an entity named by the term. A singular term need not name to be significant.

An inkling of this might have dawned on Wyman and McX even without benefit of Russell if they had only noticed—as so few of us do—that there is a gulf between *meaning* and *naming* even in the case of a singular term which is genuinely a name of an object. The following example from Frege will serve. The phrase 'Evening Star' names a certain large physical object of spherical form, which is hurtling through space some scores of millions of miles from here. The phrase 'Morning Star' names the same thing, as was probably first established by some observant Babylonian. But the two phrases cannot be regarded as having the same meaning; otherwise that Babylonian could have dispensed with his observations and contented himself with reflecting on the meanings of his words. The meanings, then, being different from one another, must be other than the named object, which is one and the same in both cases.

Confusion of meaning with naming not only made McX think he could not meaningfully repudiate Pegasus; a continuing confusion of meaning with naming no doubt helped engender his absurd notion that Pegasus is an idea, a mental entity. The structure of his confusion is as follows. He confused the alleged *named object* Pegasus with the *meaning* of the word 'Pegasus', therefore concluding that Pegasus must be in order that the word have meaning. But what sorts of things are meanings? This is a moot point; however, one might quite plausibly explain meanings as ideas in the mind, supposing we can make clear sense in turn of the idea of ideas in the mind. Therefore Pegasus, initially confused with a meaning, ends up as an idea in the mind. It is the more remarkable that Wyman, subject to the same initial motivation as McX, should have avoided this particular blunder and wound up with unactualized possibles instead.

Now let us turn to the ontological problem of universals: the question whether there are such entities as attributes, relations, classes, numbers, functions. McX, characteristically enough, thinks there are. Speaking of attributes, he says: "There are red houses, red roses, red sunsets; this much is prephilosophical common sense in which we must all agree. These houses, roses, and sunsets, then, have something in common; and this which they have in common is all I mean by the attribute of redness." For McX, thus, there being attributes is even more obvious and trivial than the obvious and trivial fact of there being red houses, roses, and sunsets. This, I think, is characteristic of metaphysics, or at least of that part of metaphysics called ontology:

one who regards a statement on this subject as true at all must regard it as trivially true. One's ontology is basic to the conceptual scheme by which he interprets all experiences, even the most commonplace ones. Judged within some particular conceptual scheme—and how else is judgment possible?—an ontological statement goes without saying, standing in need of no separate justification at all. Ontological statements follow immediately from all manner of casual statements of commonplace fact, just as—from the point of view, anyway, of McX's conceptual scheme—'There is an attribute' follows from 'There are red houses, red roses, red sunsets'.

Judged in another conceptual scheme, an ontological statement which is axiomatic to McX's mind may, with equal immediacy and triviality, be adjudged false. One may admit that there are red houses, roses, and sunsets, but deny, except as a popular and misleading manner of speaking, that they have anything in common. The words 'houses', 'roses', and 'sunsets' are true of sundry individual entities which are houses and roses and sunsets, and the word 'red' or 'red object' is true of each of sundry individual entities which are red houses, red roses, red sunsets; but there is not, in addition, any entity whatever, individual or otherwise, which is named by the word 'redness', nor, for that matter, by the word 'household', 'rosehood', 'sunsethood'. That the houses and roses and sunsets are all of them red may be taken as ultimate and irreducible, and it may be held that McX is no better off, in point of real explanatory power, for all the occult entities which he posits under such names as 'redness'.

One means by which McX might naturally have tried to impose his ontology of universals on us was already removed before we turned to the problem of universals. McX cannot argue that predicates such as 'red' or 'is-red', which we all concur in using, must be regarded as names each of a single universal entity in order that they be meaningful at all. For we have seen that being a name of something is a much more special feature than being meaningful. He cannot even charge us—at least not by *that* argument—with having posited an attribute of pegasizing by our adoption of the predicate 'pegasizes'.

However, McX hits upon a different stratagem. "Let us grant," he says, "this distinction between meaning and naming of which you make so much. Let us even grant that 'is red', 'pegasizes', etc., are not names of attributes. Still, you admit they have meanings. But these *meanings*, whether they are *named* or not, are still universals, and I venture to say that some of them might even be the very things that I call attributes, or something to much the same purpose in the end."

For McX, this is an unusually penetrating speech; and the only way I know to counter it is by refusing to admit meanings. However, I feel no reluctance toward refusing to admit meanings, for I do not thereby deny that words and statements are meaningful. McX and I may agree to the letter in our classification of linguistic forms into the meaningful and the meaningless, even though McX construes meaningfulness as the *having* (in some sense of 'having') of some abstract entity which he calls a meaning, whereas I do not. I remain free to maintain that the fact that a given linguistic utterance is meaningful (or *significant*, as I prefer to say so as not to invite hypostasis of meanings as entities) is an ultimate and irreducible matter of fact; or, I may undertake to analyze it in terms directly of what people do in the presence of the linguistic utterance in question and other utterances similar to it.

The useful ways in which people ordinarily talk or seem to talk about meanings boil down to two: the *having* of meanings, which is significance, and *sameness* of meaning, or synonymy. What is called *giving* the meaning of an utterance is simply the uttering

of a synonym, couched, ordinarily, in clearer language than the original. If we are allergic to meanings as such, we can speak directly of utterances as significant or insignificant, and as synonymous or heteronymous one with another. The problem of explaining these adjectives 'significant' and 'synonymous' with some degree of clarity and rigor—preferably, as I see it, in terms of behavior—is as difficult as it is important.[6] But the explanatory value of special and irreducible intermediary entities called meanings is surely illusory.

Up to now I have argued that we can use singular terms significantly in sentences without presupposing that there are the entities which those terms purport to name. I have argued further that we can use general terms, for example, predicates, without conceding them to be names of abstract entities. I have argued further that we can view utterances as significant, and as synonymous or heteronymous with one another, without countenancing a realm of entities called meanings. At this point McX begins to wonder whether there is any limit at all to our ontological immunity. Does *nothing* we may say commit us to the assumption of universals or other entities which we may find unwelcome?

I have already suggested a negative answer to this question, in speaking of bound variables, or variables of quantification, in connection with Russell's theory of descriptions. We can very easily involve ourselves in ontological commitments by saying, for example, that *there is something* (bound variable) which red houses and sunsets have in common; or that *there is something* which is a prime number larger than a million. But, this is, essentially, the *only* way we can involve ourselves in ontological commitments: by our use of bound variables. The use of alleged names is no criterion, for we can repudiate their namehood at the drop of a hat unless the assumption of a corresponding entity can be spotted in the things we affirm in terms of bound variables. Names are, in fact, altogether immaterial to the ontological issue, for I have shown, in connection with 'Pegasus' and 'pegasize', that names can be converted to descriptions, and Russell has shown that descriptions can be eliminated.

Whatever we say with the help of names can be said in a language which shuns names altogether. To be assumed as an entity is, purely and simply, to be reckoned as the value of a variable. In terms of the categories of traditional grammar, this amounts roughly to saying that to be is to be in the range of reference of a pronoun. Pronouns are the basic media of reference; nouns might better have been named propronouns. The variables of quantification, 'something', 'nothing', 'everything', range over our whole ontology, whatever it may be; and we are convicted of a particular ontological presupposition if, and only if, the alleged presuppositum has to be reckoned among the entities over which our variables range in order to render one of our affirmations true.

We may say, for example, that some dogs are white and not thereby commit ourselves to recognizing either doghood or whiteness as entities. 'Some dogs are white' says that some things that are dogs are white; and, in order that this statement be true, the things over which the bound variable 'something' ranges must include some white dogs, but need not include doghood or whiteness. On the other hand, when we say that some zoological species are cross-fertile we are committing ourselves to recognizing as entities the several species themselves, abstract though they are. We remain so committed at least until we devise some way of so paraphrasing the statement as to show that the seeming reference to species on the part of our bound variable was an avoidable manner of speaking.[7]

Classical mathematics, as the example of primes larger than a million clearly illustrates, is up to its neck in commitments to an ontology of abstract entities. Thus it is that the great mediaeval controversy over universals has flared up anew in the modern philosophy of mathematics. The issue is clearer now than of old, because we now have a more explicit standard whereby to decide what ontology a given theory or form of discourse is committed to: a theory is committed to those and only those entities to which the bound variables of the theory must be capable of referring in order that the affirmations made in the theory be true.

Because this standard of ontological presupposition did not emerge clearly in the philosophical tradition, the modern philosophical mathematicians have not on the whole recognized that they were debating the same old problem of universals in a newly clarified form. But the fundamental cleavages among modern points of view on foundations of mathematics do come down pretty explicitly to disagreements as to the range of entities to which the bound variables should be permitted to refer.

The three main mediaeval points of view regarding universals are designated by historians as *realism*, *conceptualism*, and *nominalism*. Essentially these same three doctrines reappear in twentieth-century surveys of the philosophy of mathematics under the new names *logicism*, *intuitionism*, and *formalism*.

Realism, as the word is used in connection with the mediaeval controversy over universals, is the Platonic doctrine that universals or abstract entities have being independently of the mind; the mind may discover them but cannot create them. *Logicism*, represented by Frege, Russell, Whitehead, Church, and Carnap, condones the use of bound variables to refer to abstract entities known and unknown, specifiable and unspecifiable, indiscriminately.

Conceptualism holds that there are universals but they are mind-made. *Intuitionism*, espoused in modern times in one form or another by Poincaré, Brouwer, Weyl, and others, countenances the use of bound variables to refer to abstract entities only when those entities are capable of being cooked up individually from ingredients specified in advance. As Fraenkel has put it, logicism holds that classes are discovered while intuitionism holds that they are invented—a fair statement indeed of the old opposition between realism and conceptualism. This opposition is no mere quibble; it makes an essential difference in the amount of classical mathematics to which one is willing to subscribe. Logicists, or realists, are able on their assumptions to get Cantor's ascending orders of infinity; intuitionists are compelled to stop with the lowest order of infinity, and, as an indirect consequence, to abandon even some of the classical laws of real numbers.[8] The modern controversy between logicism and intuitionism arose, in fact, from disagreements over infinity.

Formalism, associated with the name of Hilbert, echoes intuitionism in deploring the logicist's unbridled recourse to universals. But formalism also finds intuitionism unsatisfactory. This could happen for either of two opposite reasons. The formalist might, like the logicist, object to the crippling of classical mathematics; or he might, like the *nominalists* of old, object to admitting abstract entities at all, even in the restrained sense of mind-made entities. The upshot is the same: the formalist keeps classical mathematics as a play of insignificant notations. This play of notations can still be of utility—whatever utility it has already shown itself to have as a crutch for physicists and technologists. But utility need not imply significance, in any literal linguistic sense. Nor need the marked success of mathematicians in spinning out theorems, and in finding objective bases for agreement with one another's results,

imply significance. For an adequate basis for agreement among mathematicians can be found simply in the rules which govern the manipulation of the notations—these syntactical rules being, unlike the notations themselves, quite significant and intelligible.[9]

I have argued that the sort of ontology we adopt can be consequential—notably in connection with mathematics, although this is only an example. Now how are we to adjudicate among rival ontologies? Certainly the answer is not provided by the semantical formula "To be is to be the value of a variable"; this formula serves rather, conversely, in testing the conformity of a given remark or doctrine to a prior ontological standard. We look to bound variables in connection with ontology not in order to know what there is, but in order to know what a given remark or doctrine, ours or someone else's, *says* there is; and this much is quite properly a problem involving language. But what there is is another question.

In debating over what there is, there are still reasons for operating on a semantical plane. One reason is to escape from the predicament noted at the beginning of this essay: the predicament of my not being able to admit that there are things which McX countenances and I do not. So long as I adhere to my ontology, as opposed to McX's, I cannot allow my bound variables to refer to entities which belong to McX's ontology and not to mine. I can, however, consistently describe our disagreement by characterizing the statements which McX affirms. Provided merely that my ontology countenances linguistic forms, or at least concrete inscriptions and utterances, I can talk about McX's sentences.

Another reason for withdrawing to a semantical plane is to find common ground on which to argue. Disagreement in ontology involves basic disagreement in conceptual schemes; yet McX and I, despite these basic disagreements, find that our conceptual schemes converge sufficiently in their intermediate and upper ramifications to enable us to communicate successfully on such topics as politics, weather, and, in particular, language. In so far as our basic controversy over ontology can be translated upward into a semantical controversy about words and what to do with them, the collapse of the controversy into question-begging may be delayed.

It is no wonder, then, that ontological controversy should tend into controversy over language. But we must not jump to the conclusion that what there is depends on words. Translatability of a question into semantical terms is no indication that the question is linguistic. To see Naples is to bear a name which, when prefixed to the words 'sees Naples', yields a true sentence; still there is nothing linguistic about seeing Naples.

Our acceptance of an ontology is, I think, similar in principle to our acceptance of a scientific theory, say a system of physics: we adopt, at least insofar as we are reasonable, the simplest conceptual scheme into which the disordered fragments of raw experience can be fitted and arranged. Our ontology is determined once we have fixed upon the over-all conceptual scheme which is to accommodate science in the broadest sense; and the considerations which determine a reasonable construction of any part of that conceptual scheme, for example, the biological or the physical part, are not different in kind from the considerations which determine a reasonable construction of the whole. To whatever extent the adoption of any system of scientific theory may be said to be a matter of language, the same—but no more— may be said of the adoption of an ontology.

But simplicity, as a guiding principle in constructing conceptual schemes, is not a clear and unambiguous idea; and it is quite capable of presenting a double or multiple standard. Imagine, for example, that we have devised the most economical set of concepts adequate to the play-by-play reporting of immediate experience. The entities under this scheme—the values of bound variables—are, let us suppose, individual subjective events of sensation or reflection. We should still find, no doubt, that a physicalistic conceptual scheme, purporting to talk about external objects, offers great advantages in simplifying our over-all reports. By bringing together scattered sense events and treating them as perceptions of one object, we reduce the complexity of our stream of experience to a manageable conceptual simplicity. The rule of simplicity is indeed our guiding maxim in assigning sense data to objects: we associate an earlier and a later round sensum with the same so-called penny, or with two different so-called pennies, in obedience to the demands of maximum simplicity in our total world-picture.

Here we have two competing conceptual schemes, a phenomenalistic one and a physicalistic one. Which should prevail? Each has its advantages; each has its special simplicity in its own way. Each, I suggest, deserves to be developed. Each may be said, indeed, to be the more fundamental, though in different senses: the one is epistemologically, the other physically, fundamental.

The physical conceptual scheme simplifies our account of experience because of the way myriad scattered sense events come to be associated with single so-called objects; still there is no likelihood that each sentence about physical objects can actually be translated, however deviously and complexly, into the phenomenalistic language. Physical objects are postulated entities which round out, and simplify our account of the flux of experience, just, as the introduction of irrational numbers simplifies laws of arithmetic. From the point of view of the conceptual scheme of the elementary arithmetic of rational numbers alone, the broader arithmetic of rational and irrational numbers would have the status of a convenient myth, simpler than the literal truth (namely, the arithmetic of rationals) and yet, containing that literal truth as a scattered part. Similarly, from a phenomenalistic point, of view, the conceptual scheme of physical objects is a convenient myth, simpler than the literal truth and yet containing that literal truth as a scattered part.[10]

Now what of classes or attributes of physical objects, in turn? A platonistic ontology of this sort is, from the point of view of a strictly physicalistic conceptual scheme, as much a myth as that physicalistic conceptual scheme itself is for phenomenalism. This higher myth is a good and useful one, in turn, in so far as it simplifies our account of physics. Since mathematics is an integral part of this higher myth, the utility of this myth for physical science is evident enough. In speaking of it nevertheless as a myth, I echo that philosophy of mathematics to which I alluded earlier under the name of formalism. But an attitude of formalism may with equal justice be adopted toward the physical conceptual scheme, in turn, by the pure aesthete or phenomenalist.

The analogy between the myth of mathematics and the myth of physics is, in some additional and perhaps fortuitous ways, strikingly close. Consider, for example, the crisis which was precipitated in the foundations of mathematics, at the turn of the century, by the discovery of Russell's paradox and other antinomies of set theory. These contradictions had to be obviated by unintuitive, *ad hoc* devices;[11] our mathematical myth-making became deliberate and evident to all. But what of physics? An antinomy arose between the undular and the corpuscular accounts of light; and if this was not as out-and-out a contradiction as Russell's paradox, I suspect that the reason is that physics is not as out-and-out as mathematics. Again, the second great

modern crisis in the foundations of mathematics—precipitated in 1931 by Gödel's proof that there are bound to be undecidable statements in arithmetic—has its companion piece in physics in Heisenberg's indeterminacy principle.

In earlier pages I undertook to show that some common arguments in favor of certain ontologies are fallacious. Further, I advanced an explicit standard whereby to decide what the ontological commitments of a theory are. But the question what ontology actually to adopt still stands open, and the obvious counsel is tolerance and an experimental spirit. Let us by all means see how much of the physicalistic conceptual scheme can be reduced to a phenomenalistic one; still, physics also naturally demands pursuing, irreducible *in toto* though it be. Let us see how, or to what degree, natural science may be rendered independent of platonistic mathematics; but let us also pursue mathematics and delve into its platonistic foundations.

From among the various conceptual schemes best suited to these various pursuits, one—the phenomenalistic—claims epistemological priority. Viewed from within the phenomenalistic conceptual scheme, the ontologies of physical objects and mathematical objects are myths. The quality of myth, however, is relative; relative, in this case, to the epistemological point of view. This point of view is one among various, corresponding to one among our various interests and purposes.

Notes

1 The impulse to distinguish terminologically between existence as applied to objects actualized somewhere in space-time and existence (or subsistence or being) as applied to other entities arises in part, perhaps, from an idea that the observation of nature is relevant only to questions of existence of the first kind. But this idea is readily refuted by counterinstances such as 'the ratio of the number of centaurs to the number of unicorns'. If there were such a ratio, it would be an abstract entity, viz. a number. Yet it is only by studying nature that we conclude that the number of centaurs and the number of unicorns are both 0 and hence that there is no such ratio.
2 see below, p. 152.
3 For more on the theory of descriptions see below, pp. 85f, 166f.
4 For more explicit treatment of the bound variable see below, pp. 82, 102f.
5 For further remarks on such assimilation of all singular terms to descriptions see below, p. 167; also Quine [2], pp. 218-224.
6 See Essays II and III.
7 For more on this topic see Essay VI.
8 See below, pp. 125ff.
9 See Goodman and Quine. For further discussion of the general matters touched on in the past two pages, see Bernays [l], Fraenkel, Black.
10 The arithmetical analogy is due to Frank, pp. 108f.
11 See below, pp. 90ff, 96ff, 122ff.